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 Ala Pro Gly Gly Asp Pro Phe Val Ala Cys Asn Glu Cys Ala Phe Pro
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 Val Cys Arg Asp Cys Tyr Glu Tyr Glu Arg Arg Glu Gly Thr Gln Asn
 65 70 75 80
 Cys Pro Gln Cys Lys Thr Arg Tyr Lys Arg Leu Lys Gly Cys Gln Arg
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 Phe Asn Trp Asp Gly His Asp Ser Gln Ser Val Ala Glu Ser Met Leu
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 Arg Ile Asp Ala Leu Gln Ala Ala Asp Ala Arg Arg Arg Arg Gly
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Ala Ala Asp Asp His Ala Gly Val Val Gln Val Leu Ile Asp Phe Ala
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Gly Ser Val Pro Gln Leu Gly Val Ala Asn Gly Ser Lys Leu Ile Asp
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Val Ala Ser Val Asp Val Cys Leu Pro Ala Leu Val Tyr Val Cys Arg
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Glu Lys Arg Arg Gly His Ala His His Arg Lys Ala Gly Ala Met Asn
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Ala Pro Phe Ile Leu Asp Leu Asp Cys Asp Tyr Tyr Val Asn Asn Ser
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Gln Ala Leu Arg Ala Gly Ile Cys Phe Met Ile Glu Arg Gly Gly Gly
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Gly Ala Ala Glu Asp Ala Gly Ala Val Ala Phe Val Gln Phe Pro Gln
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Arg Val Asp Gly Val Asp Pro Gly Asp Arg Tyr Ala Asn His Asn Arg
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Val Leu Phe Asp Cys Thr Glu Leu Gly Leu Asp Gly Leu Gln Gly Pro
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Ile Tyr Val Gly Thr Gly Cys Leu Phe Arg Arg Val Ala Leu Tyr Ser
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Val Asp Leu Pro Arg Trp Arg Pro Arg Arg Ser Leu Gly Cys Arg Leu
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Leu Ser Gly Pro Arg
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 Asp Gly Asp Leu Phe Val Ala Cys Asn Glu Cys Gly Phe Pro Val Cys
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 Arg Pro Cys Tyr Glu Tyr Glu Arg Arg Glu Gly Ser His Leu Cys Pro
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 Gln Cys Lys Thr Arg Tyr Lys Arg Leu Lys Gly Ser Pro Arg Val Glu
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 Gly Asp Asp Asp Glu Glu Asp Val Asp Asp Ile Glu His Glu Phe Asn
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 Ile Asp Glu Gln Lys Asn Lys His Gly Gln Val Ala Glu Ala Met Leu
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 His Gly Arg Met Ser Tyr Gly Arg Gly Pro Glu Asp Asp Asp Asn Ser
 130 135 140
 Gln Phe Pro Thr Pro Val Ile Ala Gly Gly Arg Ser Arg Pro Val Ser
 145 150 155 160
 Gly Glu Phe Pro Ile Ser Ser Asn Ala Tyr Gly Asp Gln Met Leu Ser
 165 170 175
 Ser Ser Leu His Lys Arg Val His Pro Tyr Pro Val Ser Glu Pro Gly
 180 185 190
 Ser Ala Arg Trp Asp Glu Lys Lys Xaa Asp Gly Trp Lys Asp Arg Met
 195 200 205
 Asp Asp Trp Lys Leu Gln Gln Gly Asn Leu Gly Pro Glu Pro Asp Glu
 210 215 220
 Asp Pro Asp Ala Ala Met Leu Asp Glu Ala Arg Gln Pro Leu Ser Arg
 225 230 235 240
 Lys Val Pro Ile Ala Ser Ser Lys Ile Asn Pro Tyr Arg Met Val Ile
 245 250 255
 Val Ala Arg Leu Val Ile Leu Ala Phe Phe Leu Arg Tyr Arg Leu Met
 260 265 270
 Asn Pro Val His Asp Ala Leu Gly Leu Trp Leu Thr Ser Ile Ile Cys
 275 280 285
 Glu Ile Trp Phe Ala Phe Ser Trp Ile Leu Asp Gln Phe Pro Lys Trp
 290 295 300
 Phe Pro Ile Asp Arg Glu Thr Tyr Leu Asp Arg Leu Ser Ile Arg Tyr
 305 310 315 320
 Glu Arg Glu Gly Glu Pro Asn Met Leu Ala Pro Val Asp Val Phe Val
 325 330 335
 Ser Thr Val Asp Pro Met Lys Glu Pro Pro Leu Val Thr Ala Asn Thr
 340 345 350

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Val	Leu	Ser	Ile	Leu	Ala	Met	Asp	Tyr	Pro	Val	Asp	Lys	Ile	Ser	Cys
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Tyr	Ile	Ser	Asp	Asp	Gly	Ala	Ser	Met	Cys	Thr	Phe	Glu	Ser	Leu	Ser
	370					375					380				
Glu	Thr	Ala	Glu	Phe	Ala	Arg	Lys	Trp	Val	Pro	Phe	Cys	Lys	Lys	Phe
	385				390					395					400
Ser	Ile	Glu	Pro	Arg	Ala	Pro	Glu	Met	Tyr	Phe	Ser	Glu	Lys	Ile	Asp
				405					410					415	
Tyr	Leu	Lys	Asp	Lys	Val	Gln	Pro	Thr	Phe	Val	Lys	Glu	Arg	Arg	Ala
			420					425					430		
Met	Lys	Arg	Glu	Tyr	Glu	Glu	Phe	Lys	Val	Arg	Ile	Asn	Ala	Leu	Val
		435					440					445			
Ala	Lys	Ala	Gln	Lys	Val	Pro	Gln	Gly	Gly	Trp	Ile	Met	Gln	Asp	Gly
	450					455					460				
Thr	Pro	Trp	Pro	Gly	Asn	Asn	Thr	Lys	Asp	His	Pro	Gly	Met	Ile	Gln
	465				470					475					480
Val	Phe	Leu	Gly	Ser	Ser	Gly	Gly	Leu	Asp	Thr	Glu	Gly	Asn	Gln	Leu
				485					490					495	
Pro	Arg	Leu	Val	Tyr	Val	Ser	Arg	Glu	Lys	Arg	Pro	Gly	Phe	Gln	His
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His	Lys	Lys	Ala	Gly	Ala	Met	Asn	Ala	Leu	Val	Arg	Val	Ser	Ala	Val
		515					520					525			
Leu	Thr	Asn	Ala	Pro	Phe	Met	Leu	Asn	Leu	Asp	Cys	Asp	His	Tyr	Val
	530					535					540				
Asn	Asn	Ser	Lys	Ala	Ala	Arg	Glu	Ala	Met	Cys	Phe	Leu	Met	Asp	Pro
	545				550					555					560
Gln	Thr	Gly	Lys	Lys	Val	Cys	Tyr	Val	Gln	Phe	Pro	Gln	Arg	Phe	Asp
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Gly	Ile	Asp	Thr	His	Asp	Arg	Tyr	Ala	Asn	Arg	Asn	Thr	Val	Phe	Phe
			580					585					590		
Asp	Ile	Asn	Met	Lys	Gly	Leu	Asp	Gly	Ile	Gln	Gly	Pro	Val	Tyr	Val
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Gly	Thr	Gly	Cys	Val	Phe	Arg	Arg	Gln	Ala	Leu	Tyr	Gly	Tyr	Asn	Pro
	610					615					620				
Pro	Lys	Gly	Pro	Lys	Arg	Pro	Lys	Met	Val	Ser	Cys	Asp	Cys	Cys	Pro
	625				630					635					640
Cys	Phe	Gly	Ser	Arg	Lys	Lys	Tyr	Lys	Glu	Lys	Asn	Asp	Ala	Asn	Gly
				645					650					655	
Glu	Ala	Ala	Ser	Leu	Lys	Gly	Met	Asp	Asp	Asp	Lys	Glu	Val	Leu	Met
			660					665					670		

Ser	Gln	Met	Asn	Phe	Glu	Lys	Lys	Phe	Gly	Gln	Ser	Ser	Ile	Phe	Val
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Thr	Ser	Thr	Leu	Met	Glu	Glu	Gly	Gly	Val	Pro	Pro	Ser	Ser	Ser	Pro
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Ala	Ala	Leu	Leu	Lys	Glu	Ala	Ile	His	Val	Ile	Ser	Cys	Gly	Tyr	Glu
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Asp	Lys	Thr	Glu	Trp	Gly	Leu	Glu	Leu	Gly	Trp	Ile	Tyr	Gly	Ser	Ile
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Thr	Glu	Asp	Ile	Leu	Thr	Gly	Phe	Lys	Met	His	Cys	Arg	Gly	Trp	Arg
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Ser	Ile	Tyr	Cys	Met	Pro	Lys	Arg	Ala	Ala	Phe	Lys	Gly	Thr	Ala	Pro
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Ile	Asn	Leu	Ser	Asp	Arg	Leu	Asn	Gln	Val	Leu	Arg	Trp	Ala	Leu	Gly
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Ser	Ile	Glu	Ile	Phe	Phe	Ser	His	His	Cys	Pro	Leu	Trp	Tyr	Gly	Phe
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Lys	Glu	Lys	Lys	Leu	Lys	Trp	Leu	Glu	Arg	Phe	Ala	Tyr	Ala	Asn	Thr
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Thr	Val	Tyr	Pro	Phe	Thr	Ser	Ile	Pro	Leu	Val	Ala	Tyr	Cys	Ile	Leu
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Pro	Ala	Val	Cys	Leu	Leu	Thr	Asp	Lys	Phe	Ile	Met	Pro	Pro	Ile	Ser
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Thr	Phe	Ala	Gly	Leu	Tyr	Phe	Val	Ala	Leu	Phe	Ser	Ser	Ile	Ile	Ala
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Thr	Gly	Ile	Leu	Glu	Leu	Lys	Trp	Ser	Gly	Val	Ser	Ile	Glu	Glu	Trp
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Trp	Arg	Asn	Glu	Gln	Phe	Trp	Val	Ile	Gly	Gly	Val	Ser	Ala	His	Leu
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Phe	Ala	Val	Ile	Gln	Gly	Leu	Leu	Lys	Val	Leu	Ala	Gly	Ile	Asp	Thr
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Asn	Phe	Thr	Val	Thr	Ser	Lys	Ala	Thr	Asp	Asp	Glu	Glu	Phe	Gly	Glu
		915					920					925			
Leu	Tyr	Thr	Phe	Lys	Trp	Thr	Thr	Leu	Leu	Ile	Pro	Pro	Thr	Thr	Ile
	930					935					940				
Leu	Ile	Ile	Asn	Ile	Val	Gly	Val	Val	Ala	Gly	Ile	Ser	Asp	Ala	Ile
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Asn	Asn	Gly	Tyr	Gln	Ser	Trp	Gly	Pro	Leu	Phe	Gly	Lys	Leu	Phe	Phe
				965					970					975	
Ser	Phe	Trp	Val	Ile	Val	His	Leu	Tyr	Pro	Phe	Leu	Lys	Gly	Leu	Met
			980					985					990		

Gly Arg Gln Asn Arg Thr Pro Thr Ile Val Val Ile Trp Ser Val Leu
 995 1000 1005

Leu Ala Ser Ile Phe Ser Leu Leu Trp Val Arg Ile Asp Pro Phe Val
 1010 1015 1020

Leu Lys Thr Lys Gly Pro Asp Thr Lys Leu Cys Gly Ile Asn Cys
 1025 1030 1035

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 <212> DNA
 <213> Glycine max

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 ctggatacag atggaaatga gctgcctaga cttgtttatg tttctcgtga gaagcgacca 180
 ggcttccaac atcacaagaa ggctggagct atgaatgctt tgattcgagt ttctgctgtc 240
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 gccctcaaaag aagccatgtg tttcatgatg gatcctgttc ttggaaagaa gacatgctat 360
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<210> 16
 <211> 610
 <212> PRT
 <213> Glycine max

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Thr Pro Trp Pro Gly Asn Asn Pro Arg Asp His Pro Gly Met Ile Gln
          20          25          30

Val Phe Leu Gly His Ser Gly Gly Leu Asp Thr Asp Gly Asn Glu Leu
          35          40          45

Pro Arg Leu Val Tyr Val Ser Arg Glu Lys Arg Pro Gly Phe Gln His
          50          55          60

His Lys Lys Ala Gly Ala Met Asn Ala Leu Ile Arg Val Ser Ala Val
 65          70          75          80

Leu Thr Asn Gly Ala Tyr Leu Leu Asn Val Asp Cys Asp His Tyr Phe
          85          90          95

Asn Asn Ser Lys Ala Leu Lys Glu Ala Met Cys Phe Met Met Asp Pro
          100          105          110

Val Leu Gly Lys Lys Thr Cys Tyr Val Gln Phe Pro Gln Arg Phe Asp
          115          120          125

Gly Ile Asp Leu His Asp Arg Tyr Ala Asn Arg Asn Ile Val Phe Phe
          130          135          140

Asp Ile Asn Met Lys Gly Gln Asp Gly Val Gln Gly Pro Val Tyr Val
          145          150          155          160

Gly Thr Gly Cys Cys Phe Asn Arg Gln Ala Leu Tyr Gly Tyr Asp Pro
          165          170          175

Val Leu Thr Glu Glu Asp Leu Glu Pro Asn Ile Ile Val Lys Ser Cys
          180          185          190

Cys Gly Ser Arg Lys Lys Gly Lys Gly Gly Asn Lys Lys Tyr Ser Asp
          195          200          205

Lys Lys Lys Ala Met Gly Arg Thr Glu Ser Thr Val Pro Ile Phe Asn
          210          215          220

Met Glu Asp Ile Glu Glu Gly Val Glu Gly Tyr Asp Asp Glu Arg Thr
          225          230          235          240

Leu Leu Met Ser Gln Lys Ser Leu Glu Lys Arg Phe Gly Gln Ser Pro
          245          250          255

Val Phe Ile Ala Ala Thr Phe Met Glu Gln Gly Gly Ile Pro Pro Ser
          260          265          270

Thr Asn Pro Ala Thr Leu Leu Lys Glu Ala Ile His Val Ile Ser Cys
          275          280          285

Gly Tyr Glu Asp Lys Thr Glu Trp Gly Lys Glu Ile Gly Trp Ile Tyr
          290          295          300

Gly Ser Val Thr Glu Asp Ile Leu Thr Gly Phe Lys Met His Ala Arg
          305          310          315          320

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Gly Trp Ile Ser Ile Tyr Cys Met Pro Pro Arg Pro Ala Phe Lys Gly
325 330 335

Ser Ala Pro Ile Asn Leu Ser Asp Arg Leu Asn Gln Val Leu Arg Trp
340 345 350

Ala Leu Gly Ser Ile Glu Ile Phe Leu Ser Arg His Cys Pro Leu Trp
355 360 365

Tyr Gly Tyr Asn Gly Lys Leu Lys Pro Leu Met Arg Leu Ala Tyr Ile
370 375 380

Asn Thr Ile Val Tyr Pro Phe Thr Ser Ile Pro Leu Ile Ala Tyr Cys
385 390 395 400

Thr Leu Pro Ala Phe Cys Leu Leu Thr Asn Lys Phe Ile Ile Pro Glu
405 410 415

Ile Ser Asn Phe Ala Ser Met Trp Phe Ile Leu Leu Phe Val Ser Ile
420 425 430

Phe Thr Thr Ser Ile Leu Glu Leu Arg Trp Ser Gly Val Ser Ile Glu
435 440 445

Asp Trp Trp Arg Asn Glu Gln Phe Trp Val Ile Gly Gly Thr Ser Ala
450 455 460

His Leu Phe Ala Val Phe Gln Gly Leu Leu Lys Val Leu Ala Gly Ile
465 470 475 480

Asp Thr Asn Phe Thr Val Thr Ser Lys Ala Ser Asp Glu Asp Gly Asp
485 490 495

Phe Ala Glu Leu Tyr Val Phe Lys Trp Thr Ser Leu Leu Ile Pro Pro
500 505 510

Thr Thr Val Leu Ile Val Asn Leu Val Gly Ile Val Ala Gly Val Ser
515 520 525

Tyr Ala Ile Asn Ser Gly Tyr Gln Ser Trp Gly Pro Leu Phe Gly Lys
530 535 540

Leu Phe Phe Ala Ile Trp Val Ile Ala His Leu Tyr Pro Phe Leu Lys
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Gly Leu Leu Gly Arg Gln Asn Arg Thr Pro Thr Ile Val Ile Val Trp
565 570 575

Ser Val Leu Leu Ala Ser Ile Phe Ser Leu Leu Trp Val Arg Ile Asp
580 585 590

Pro Phe Thr Ser Asp Ser Asn Lys Leu Thr Asn Gly Gln Cys Gly Ile
595 600 605

Asn Cys
610

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<211> 2890

<212> DNA
 <213> Glycine max

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 <211> 793
 <212> PRT
 <213> Glycine max

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Val Ile Cys Glu Ile Trp Phe Ala Val Ser Trp Ile Met Asp Gln Phe
          20          25          30

Pro Lys Trp Tyr Pro Ile Gln Arg Glu Thr Tyr Leu Asp Arg Leu Ser
          35          40          45

Leu Arg Tyr Glu Lys Glu Gly Lys Pro Ser Glu Leu Ser Ser Val Asp
 50          55          60

Val Phe Val Ser Thr Val Asp Pro Met Lys Glu Pro Pro Leu Ile Thr
 65          70          75          80

Ala Asn Thr Val Leu Ser Ile Leu Ala Val Asp Tyr Pro Val Asp Lys
          85          90          95

Val Ala Cys Tyr Val Ser Asp Asp Gly Ala Ala Met Leu Thr Phe Glu
          100          105          110

Ala Leu Ser Glu Thr Ser Glu Phe Ala Arg Arg Trp Val Pro Phe Cys
          115          120          125

Lys Lys Tyr Asn Ile Glu Pro Arg Ala Pro Glu Trp Tyr Phe Gly Gln
          130          135          140

Lys Met Asp Tyr Leu Lys Asn Lys Val His Pro Ala Phe Val Arg Glu
          145          150          155          160

Arg Arg Ala Met Lys Arg Asp Tyr Glu Glu Phe Lys Val Arg Ile Asn
          165          170          175

Ser Leu Val Ala Thr Ala Gln Lys Val Pro Glu Asp Gly Trp Thr Met
          180          185          190

Gln Asp Gly Thr Pro Trp Pro Gly Asn Asn Val Arg Asp His Pro Gly
          195          200          205

Met Ile Gln Val Phe Leu Gly Gln Asp Gly Val Arg Asp Val Glu Gly
          210          215          220

Asn Glu Leu Pro Arg Leu Val Tyr Val Ser Arg Glu Lys Arg Pro Gly
          225          230          235          240

Phe Asp His His Lys Lys Ala Gly Ala Met Asn Ala Leu Val Arg Ala
          245          250          255

Ser Ala Ile Ile Thr Asn Ala Pro Tyr Leu Leu Asn Val Asp Cys Asp
          260          265          270

His Tyr Ile Asn Asn Ser Lys Ala Leu Arg Glu Ala Met Cys Phe Met
          275          280          285

Met Asp Pro Gln Leu Gly Lys Lys Val Cys Tyr Val Gln Phe Pro Gln
          290          295          300

Arg Phe Asp Gly Ile Asp Arg His Asp Arg Tyr Ser Asn Arg Asn Val
          305          310          315          320

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Val	Phe	Phe	Asp	Ile	Asn	Met	Lys	Gly	Leu	Asp	Gly	Ile	Gln	Gly	Pro	325	330	335
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Tyr	Asp	Ala	Pro	Ala	Lys	Lys	Lys	Pro	Pro	Ser	Lys	Thr	Cys	Asn	Cys	355	360	365
Trp	Pro	Lys	Trp	Cys	Cys	Leu	Cys	Cys	Gly	Ser	Arg	Lys	Lys	Lys	Asn	370	375	380
Ala	Asn	Ser	Lys	Lys	Glu	Lys	Lys	Arg	Lys	Val	Lys	His	Ser	Glu	Ala	385	390	395
Ser	Lys	Gln	Ile	His	Ala	Leu	Glu	Asn	Ile	Glu	Ala	Gly	Asn	Glu	Gly	405	410	415
Thr	Asn	Asn	Glu	Lys	Thr	Ser	Asn	Leu	Thr	Gln	Thr	Lys	Leu	Glu	Lys	420	425	430
Arg	Phe	Gly	Gln	Ser	Pro	Val	Phe	Val	Ala	Ser	Thr	Leu	Leu	Asp	Asp	435	440	445
Gly	Gly	Val	Pro	His	Gly	Val	Ser	Pro	Ala	Ser	Leu	Leu	Lys	Glu	Ala	450	455	460
Ile	Gln	Val	Ile	Ser	Cys	Gly	Tyr	Glu	Asp	Lys	Thr	Glu	Trp	Gly	Lys	465	470	475
Glu	Val	Gly	Trp	Ile	Tyr	Gly	Ser	Val	Thr	Glu	Asp	Ile	Leu	Thr	Gly	485	490	495
Phe	Lys	Met	His	Cys	His	Gly	Trp	Arg	Ser	Val	Tyr	Cys	Ile	Pro	Lys	500	505	510
Arg	Pro	Ala	Phe	Lys	Gly	Ser	Ala	Pro	Ile	Asn	Leu	Ser	Asp	Arg	Leu	515	520	525
His	Gln	Val	Leu	Arg	Trp	Ala	Leu	Gly	Ser	Val	Glu	Ile	Phe	Phe	Ser	530	535	540
Arg	His	Cys	Pro	Ile	Trp	Tyr	Gly	Tyr	Gly	Gly	Gly	Leu	Lys	Leu	Leu	545	550	555
Glu	Arg	Phe	Ser	Tyr	Ile	Asn	Ser	Val	Val	Tyr	Pro	Trp	Thr	Ser	Leu	565	570	575
Pro	Leu	Leu	Val	Tyr	Cys	Thr	Leu	Pro	Ala	Ile	Cys	Leu	Leu	Thr	Gly	580	585	590
Lys	Phe	Ile	Val	Pro	Glu	Ile	Ser	Asn	Tyr	Ala	Ser	Leu	Val	Phe	Met	595	600	605
Ala	Leu	Phe	Ile	Ser	Ile	Ala	Ala	Thr	Gly	Ile	Leu	Glu	Met	Gln	Trp	610	615	620
Gly	Gly	Val	Ser	Ile	Asp	Asp	Trp	Trp	Arg	Asn	Glu	Gln	Phe	Trp	Val	625	630	635

Ile Gly Gly Val Ser Ser His Leu Phe Ala Leu Phe Gln Gly Leu Leu
645 650 655

Lys Val Leu Ala Gly Val Asn Thr Asn Phe Thr Val Thr Ser Lys Ala
660 665 670

Ala Asp Asp Gly Glu Phe Ser Glu Leu Tyr Ile Phe Lys Trp Thr Ser
675 680 685

Leu Leu Ile Pro Pro Met Thr Leu Leu Ile Met Asn Ile Val Gly Val
690 695 700

Val Val Gly Ile Ser Asp Ala Ile Asn Asn Gly Tyr Asp Ser Trp Gly
705 710 715 720

Pro Leu Phe Gly Arg Leu Phe Phe Ala Leu Trp Val Ile Leu His Leu
725 730 735

Tyr Pro Phe Leu Lys Gly Leu Leu Gly Lys Gln Asp Arg Met Pro Thr
740 745 750

Ile Ile Leu Val Trp Ser Ile Leu Leu Ala Ser Ile Leu Thr Leu Met
755 760 765

Trp Val Arg Ile Asn Pro Phe Val Ser Arg Asp Gly Pro Val Leu Glu
770 775 780

Ile Cys Gly Leu Asn Cys Asp Glu Ser
785 790

<210> 19
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<212> DNA
<213> Triticum aestivum

<220>
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<222> (262)

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tttgatatta acttgagggg ccttgacggc attcaaggac cagtttatgt gggaactggg 180
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caaatgagct tagagaagag atttggccag tcagcagcat ttgttgccct cactctgatg 480
gaatatggtg gtgttcctca gtcgtccact ccagaatctc ttttgaaaga agctatccat 540
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ggatctgtca cagaagatat tctaactgga ttcaagatgc acgcaagagg ctggcggtca 660
atctattgca tgcccaagcg cccagctttc aagggatctg ccccatcaa tctttcagat 720
cgtctgaatc aagtgtgtcg gtgggtctct ggttctgttg aaattctttt cagccggcat 780
tgccccttat ggtatggcta cggagggcgc ctcaagttcc tggagagatt cgcttacatc 840
aacaccacca tttaccact aacctctctc ccgcttctag tctattgtat attgcctgct 900
atctgtctgc tcactggaaa gttcatcatg ccagagatta gcaacttggc cagtatctgg 960
ttcattgctg tcttcctttc aattttcgcc actggtatcc ttgagatgag gtggagtggg 1020
gttggcattg acgagtgggt gaggaatgaa cagttctggg tcattggagg tatctctgcc 1080

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tggacgacgc ttcttatccc tccgacgacc attttgatca ttaacatggg cgggtgctgt 1260
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acctgtggca tcaactgcta ggaaagtggg agtttgtaga gacagaaaat ataacagtga 1560
tcgagcgacc acctgtggag ccagagaata tttatgttgg ggttgtgaat tactacgttt 1620
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<210> 20
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 <212> PRT
 <213> *Triticum aestivum*

<220>
 <221> UNSURE
 <222> (88)

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 20 25 30
 Tyr Ala Asn Arg Asn Thr Val Phe Phe Asp Ile Asn Leu Arg Gly Leu
 35 40 45
 Asp Gly Ile Gln Gly Pro Val Tyr Val Gly Thr Gly Cys Val Phe Asn
 50 55 60
 Arg Thr Ala Ile Tyr Gly Tyr Glu Pro Pro Ile Lys Ala Lys Lys Pro
 65 70 75 80
 Gly Phe Leu Ala Ser Leu Cys Xaa Gly Lys Lys Lys Ala Ser Lys Ser
 85 90 95
 Lys Lys Arg Ser Ser Asp Lys Lys Lys Ser Asn Lys His Val Asp Ser
 100 105 110
 Ser Val Pro Val Phe Asn Leu Glu Asp Ile Glu Glu Gly Val Glu Gly
 115 120 125
 Ala Gly Phe Asp Asp Glu Lys Ser Val Leu Met Ser Gln Met Ser Leu
 130 135 140
 Glu Lys Arg Phe Gly Gln Ser Ala Ala Phe Val Ala Ser Thr Leu Met
 145 150 155 160
 Glu Tyr Gly Gly Val Pro Gln Ser Ser Thr Pro Glu Ser Leu Leu Lys
 165 170 175
 Glu Ala Ile His Val Ile Ser Cys Gly Tyr Glu Asp Lys Ser Glu Trp
 180 185 190

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Gly	Thr	Glu	Ile	Gly	Trp	Ile	Tyr	Gly	Ser	Val	Thr	Glu	Asp	Ile	Leu	195	200	205
Thr	Gly	Phe	Lys	Met	His	Ala	Arg	Gly	Trp	Arg	Ser	Ile	Tyr	Cys	Met	210	215	220
Pro	Lys	Arg	Pro	Ala	Phe	Lys	Gly	Ser	Ala	Pro	Ile	Asn	Leu	Ser	Asp	225	230	235
Arg	Leu	Asn	Gln	Val	Leu	Arg	Trp	Ala	Leu	Gly	Ser	Val	Glu	Ile	Leu	245	250	255
Phe	Ser	Arg	His	Cys	Pro	Leu	Trp	Tyr	Gly	Tyr	Gly	Gly	Arg	Leu	Lys	260	265	270
Phe	Leu	Glu	Arg	Phe	Ala	Tyr	Ile	Asn	Thr	Thr	Ile	Tyr	Pro	Leu	Thr	275	280	285
Ser	Leu	Pro	Leu	Leu	Val	Tyr	Cys	Ile	Leu	Pro	Ala	Ile	Cys	Leu	Leu	290	295	300
Thr	Gly	Lys	Phe	Ile	Met	Pro	Glu	Ile	Ser	Asn	Leu	Ala	Ser	Ile	Trp	305	310	315
Phe	Ile	Ala	Leu	Phe	Leu	Ser	Ile	Phe	Ala	Thr	Gly	Ile	Leu	Glu	Met	325	330	335
Arg	Trp	Ser	Gly	Val	Gly	Ile	Asp	Glu	Trp	Trp	Arg	Asn	Glu	Gln	Phe	340	345	350
Trp	Val	Ile	Gly	Gly	Ile	Ser	Ala	His	Leu	Phe	Ala	Val	Phe	Gln	Gly	355	360	365
Leu	Leu	Lys	Val	Leu	Ala	Gly	Ile	Asp	Thr	Asn	Phe	Thr	Val	Thr	Ser	370	375	380
Lys	Ala	Asn	Asp	Glu	Glu	Gly	Asp	Phe	Ala	Glu	Leu	Tyr	Met	Phe	Lys	385	390	395
Trp	Thr	Thr	Leu	Leu	Ile	Pro	Pro	Thr	Thr	Ile	Leu	Ile	Ile	Asn	Met	405	410	415
Val	Gly	Val	Val	Ala	Gly	Thr	Ser	Tyr	Ala	Ile	Asn	Ser	Gly	Tyr	Gln	420	425	430
Ser	Trp	Gly	Pro	Leu	Phe	Gly	Lys	Leu	Phe	Phe	Ala	Phe	Trp	Val	Ile	435	440	445
Val	His	Leu	Tyr	Pro	Phe	Leu	Lys	Gly	Leu	Met	Gly	Arg	Gln	Asn	Arg	450	455	460
Thr	Pro	Thr	Ile	Val	Ile	Val	Trp	Ala	Val	Leu	Leu	Ala	Ser	Ile	Phe	465	470	475
Ser	Leu	Leu	Trp	Val	Arg	Val	Asp	Pro	Phe	Thr	Thr	Arg	Leu	Ala	Gly	485	490	495
Pro	Asn	Ile	Gln	Thr	Cys	Gly	Ile	Asn	Cys							500	505	

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 <211> 1029
 <212> DNA
 <213> Triticum aestivum

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 tttcgcagat cccaaccttc cagtgcacc gagatccatg gaccggtcca aggatctggc 180
 cgcctacgga tatggcagcg tggcctggaa ggagagaatg gagggctgga agcagaagca 240
 ggagcgccctg cagcatgtca ggagcgaggg tggcggtgat tgggatggcg acgatgcaga 300
 tctgccacta atggatgaag ctaggcagcc attgtccaga aaagtcccta tatcatcaag 360
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 tagggagagg agggcgatga agagagaata cgaggaattc aaggttaagga tcaatgcctt 960
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 gcctggaaa 1029

<210> 22
 <211> 340
 <212> PRT
 <213> Triticum aestivum

<400> 22
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 20 25 30
 Arg Ile His Pro Leu Pro Phe Ala Asp Pro Asn Leu Pro Val Gln Pro
 35 40 45
 Arg Ser Met Asp Pro Ser Lys Asp Leu Ala Ala Tyr Gly Tyr Gly Ser
 50 55 60
 Val Ala Trp Lys Glu Arg Met Glu Gly Trp Lys Gln Lys Gln Glu Arg
 65 70 75 80
 Leu Gln His Val Arg Ser Glu Gly Gly Gly Asp Trp Asp Gly Asp Asp
 85 90 95
 Ala Asp Leu Pro Leu Met Asp Glu Ala Arg Gln Pro Leu Ser Arg Lys
 100 105 110
 Val Pro Ile Ser Ser Ser Arg Ile Asn Pro Tyr Arg Met Ile Ile Val
 115 120 125
 Ile Arg Leu Val Val Leu Gly Phe Phe Phe His Tyr Arg Val Met His
 130 135 140
 Pro Ala Lys Asp Ala Phe Ala Leu Trp Leu Ile Ser Val Ile Cys Glu
 145 150 155 160

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Ile Trp Phe Ala Met Ser Cys Ile Leu Asp Gln Phe Pro Lys Trp Phe
165 170 175

Pro Ile Glu Arg Glu Thr Tyr Leu Asp Arg Leu Ser Leu Arg Phe Asp
180 185 190

Lys Glu Gly Gln Pro Ser Gln Leu Ala Pro Ile Asp Phe Phe Val Ser
195 200 205

Thr Val Asp Pro Thr Lys Glu Pro Pro Leu Val Thr Ala Asn Thr Val
210 215 220

Leu Ser Ile Leu Ser Val Asp Tyr Pro Val Glu Lys Val Ser Cys Tyr
225 230 235 240

Val Ser Asp Asp Gly Ala Ala Met Leu Thr Phe Glu Ala Leu Ser Glu
245 250 255

Thr Ser Glu Phe Ala Lys Lys Trp Val Pro Phe Ser Lys Lys Phe Asn
260 265 270

Ile Glu Pro Arg Ala Pro Glu Trp Tyr Phe Gln Gln Lys Ile Asp Tyr
275 280 285

Leu Lys Asp Lys Val Ala Ala Ser Phe Val Arg Glu Arg Arg Ala Met
290 295 300

Lys Arg Glu Tyr Glu Glu Phe Lys Val Arg Ile Asn Ala Leu Val Ala
305 310 315 320

Lys Ala Gln Lys Val Pro Glu Glu Gly Trp Thr Met Gln Asp Gly Ser
325 330 335

Pro Trp Pro Gly
340

<210> 23
<211> 2663
<212> DNA
<213> Picramnia pentandra

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ttgattatcc agttgataaa gttacatgct acgtgtcaga tgatgggtgct gccatgctta 180
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tttatggcta tgatgcacca gtcactaaga agtccccggg aaaagcttgt aactgttggc 960

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<210> 24
 <211> 740
 <212> PRT
 <213> *Picramnia pentandra*

<400> 24
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 20 25 30
 Thr Val Leu Ser Ile Leu Ala Val Asp Tyr Pro Val Asp Lys Val Thr
 35 40 45
 Cys Tyr Val Ser Asp Asp Gly Ala Ala Met Leu Thr Phe Glu Ala Leu
 50 55 60
 Ser Glu Thr Ser Glu Phe Ala Arg Lys Trp Val Pro Phe Cys Lys Lys
 65 70 75 80
 Phe Ser Ile Glu Pro Arg Ala Pro Glu Trp Tyr Phe Ser Gln Lys Met
 85 90 95
 Asp Tyr Leu Lys Asn Lys Val His Pro Ser Phe Val Arg Glu Arg Arg
 100 105 110
 Ala Met Lys Arg Glu Tyr Glu Val Phe Lys Val Arg Ile Asn Gly Leu
 115 120 125

Val	Ala	Met	Ala	Gln	Lys	Val	Pro	Glu	Asp	Gly	Trp	Thr	Met	Gln	Asp
130						135					140				
Gly	Thr	Pro	Trp	Pro	Gly	Asn	Asn	Val	Arg	Asp	His	Pro	Gly	Met	Ile
145					150					155					160
Gln	Val	Phe	Leu	Gly	His	Asn	Gly	Val	Arg	Asp	Val	Glu	Gly	Asn	Glu
				165						170				175	
Leu	Pro	Arg	Leu	Ile	Tyr	Val	Ser	Arg	Glu	Lys	Arg	Pro	Gly	Phe	Glu
			180						185					190	
His	His	Lys	Lys	Ala	Gly	Ala	Met	Asn	Ser	Leu	Val	Arg	Val	Ser	Ala
		195					200					205			
Val	Ile	Ser	Asn	Ala	Pro	Tyr	Ile	Leu	Asn	Val	Asp	Cys	Asp	His	Tyr
	210					215					220				
Ile	Asn	Asn	Ser	Lys	Ala	Leu	Arg	Glu	Ala	Met	Cys	Phe	Met	Met	Asp
225					230					235					240
Pro	Thr	Ser	Gly	Lys	Lys	Leu	Cys	Tyr	Val	Gln	Phe	Pro	Gln	Arg	Phe
				245						250					255
Asp	Gly	Ile	Asp	Arg	His	Asp	Arg	Tyr	Ser	Asn	Arg	Asn	Val	Val	Phe
			260					265						270	
Phe	Asp	Ile	Asn	Met	Lys	Gly	Leu	Asp	Gly	Ile	Gln	Gly	Pro	Ile	Tyr
		275					280					285			
Val	Gly	Thr	Gly	Cys	Val	Phe	Arg	Arg	Val	Ala	Leu	Tyr	Gly	Tyr	Asp
	290					295					300				
Ala	Pro	Val	Thr	Lys	Lys	Ser	Pro	Gly	Lys	Ala	Cys	Asn	Cys	Trp	Pro
305					310					315					320
Lys	Trp	Leu	Cys	Cys	Cys	Cys	Gly	Ser	Arg	Lys	Asn	Lys	Lys	Ser	Lys
			325						330					335	
Pro	Lys	Lys	Glu	Lys	Lys	Lys	Ser	Lys	Asn	Arg	Glu	Ala	Ser	Lys	Gln
			340					345					350		
Ile	His	Ala	Leu	Glu	Asn	Ile	Glu	Glu	Gly	Met	Gly	Gly	Leu	Asn	Ser
		355					360					365			
Glu	Lys	Ser	Cys	Glu	Thr	Thr	Pro	Leu	Lys	Leu	Glu	Lys	Lys	Phe	Gly
	370					375					380				
Gln	Ser	Pro	Val	Phe	Val	Ala	Ser	Thr	Leu	Leu	Glu	Asp	Gly	Gly	Val
385					390					395					400
Pro	Gln	Asp	Ala	Thr	Pro	Ala	Ala	Leu	Leu	Lys	Glu	Ala	Ile	Gln	Val
				405				410						415	
Ile	Ser	Cys	Gly	Tyr	Glu	Asp	Lys	Thr	Glu	Trp	Gly	Lys	Glu	Val	Gly
			420					425					430		
Trp	Ile	Tyr	Gly	Ser	Val	Thr	Glu	Asp	Ile	Leu	Thr	Gly	Phe	Lys	Met
		435					440					445			

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His	Cys	His	Gly	Trp	Arg	Ser	Val	Tyr	Cys	Met	Pro	Ala	Arg	Pro	Ala	
450						455					460					
Phe	Lys	Gly	Ser	Ala	Pro	Ile	Asn	Leu	Ser	Asp	Arg	Leu	His	Gln	Val	
465					470					475					480	
Leu	Arg	Trp	Ala	Leu	Gly	Ser	Val	Glu	Ile	Phe	Leu	Ser	Arg	His	Cys	
				485					490					495		
Pro	Leu	Trp	Tyr	Gly	Tyr	Gly	Gly	Gly	Leu	Lys	Trp	Leu	Glu	Arg	Phe	
			500					505					510			
Ser	Tyr	Val	Ser	Ser	Val	Val	Tyr	Pro	Trp	Thr	Ser	Ile	Pro	Leu	Leu	
		515					520					525				
Val	Tyr	Cys	Thr	Leu	Pro	Ala	Ile	Cys	Leu	Leu	Thr	Gly	Lys	Phe	Ile	
		530				535						540				
Val	Pro	Glu	Ile	Ser	Asn	Tyr	Ala	Ser	Ile	Leu	Phe	Met	Leu	Leu	Phe	
545					550					555					560	
Ile	Phe	Ile	Ala	Ala	Thr	Ser	Ile	Leu	Glu	Met	Gln	Trp	Gly	Gly	Val	
				565					570					575		
Gly	Ile	Asp	Asp	Trp	Trp	Arg	Asn	Glu	Gln	Phe	Trp	Val	Ile	Gly	Gly	
			580					585					590			
Val	Ser	Ser	His	Leu	Phe	Ala	Leu	Phe	Gln	Gly	Leu	Leu	Lys	Val	Leu	
			595				600						605			
Ala	Gly	Val	Asn	Thr	Asn	Phe	Thr	Val	Thr	Ser	Lys	Ala	Ala	Asp	Glu	
		610				615					620					
Gly	Asp	Phe	Ser	Glu	Leu	Tyr	Leu	Phe	Lys	Trp	Thr	Thr	Leu	Leu	Ile	
625					630					635					640	
Pro	Pro	Thr	Thr	Leu	Leu	Ile	Ile	Asn	Ile	Val	Gly	Val	Val	Val	Gly	
				645					650					655		
Val	Ser	Asp	Ala	Ile	Asn	Asn	Gly	Tyr	Asp	Ser	Trp	Gly	Pro	Leu	Phe	
			660					665					670			
Gly	Arg	Leu	Phe	Phe	Ala	Phe	Trp	Val	Ile	Val	His	Leu	Tyr	Pro	Phe	
		675					680					685				
Leu	Lys	Gly	Leu	Leu	Gly	Lys	Gln	Asp	Arg	Thr	Pro	Thr	Ile	Ile	Val	
		690				695					700					
Val	Trp	Ser	Ile	Leu	Leu	Ala	Ser	Ile	Leu	Thr	Leu	Leu	Trp	Val	Arg	
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Ile	Asn	Pro	Phe	Val	Ser	Arg	Asp	Gly	Pro	Val	Leu	Glu	Val	Cys	Gly	
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Leu	Asn	Cys	Asp													
			740													

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 <211> 3563
 <212> DNA
 <213> *Impatiens balsamia*

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<210> 26
<211> 1091
<212> PRT
<213> Impatiens balsamia

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          35          40          45

Gly Lys Ser Ala Thr Gly Asp Thr Phe Val Ala Cys Asn Glu Cys Gly
          50          55          60

Phe Pro Val Cys Arg Pro Cys Tyr Glu Tyr Glu Arg Lys Asp Gly Asn
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Gln Cys Cys Pro Gln Cys Lys Thr Arg Tyr Lys Arg Gln Lys Gly Ser
          85          90          95

Pro Arg Val Glu Gly Asp Glu Glu Glu Glu Asp Val Asp Asp Leu Glu
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Asn Glu Phe Asn Tyr Ser Gly Lys Gly Lys Asn Gln Lys Lys Val Thr
          115          120          125

Thr Ala Arg Arg Pro Trp Gln Gly Asp Gln Gln Asp Ile Glu Leu Ser
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Val Ser Ser Ser Arg His Asp Glu Ser Gln Gln Pro Val Pro Leu Leu
          145          150          155          160

Thr His Gly His Ser Val Ser Gly Glu Ile Pro Thr Pro Asp Asn His
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Ser Ile Arg Thr Thr Ser Gly Pro Ile Gly Pro Val Glu Lys Ser Ile
          180          185          190

Pro Tyr Ile Asp Pro Arg Gln Pro Val Ala Val Arg Ile Ile Val Asp
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Pro Ser Lys Asp Leu Asn Ser Tyr Gly Leu Gly Asn Val Asp Trp Lys
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Glu Arg Val Glu Gly Trp Lys Leu Lys Gln Glu Lys Asn Met Val Gln
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Met	Asp	Pro	Asn	Leu	Gly	Lys	Lys	Thr	Cys	Tyr	Val	Gln	Phe	Pro	Gln	
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		675					680					685				
Tyr	Ile	Asp	Lys	Asn	Arg	Ala	Leu	Lys	Arg	Thr	Glu	Ser	Thr	Ala	Pro	
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Ile	Phe	Asn	Met	Glu	Asp	Ile	Glu	Glu	Gly	Ile	Glu	Gly	Tyr	Asp	Asp	
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Glu	Arg	Ser	Phe	Leu	Met	Ala	Gln	Ser	Tyr	Glu	Lys	Arg	Phe	Gly	Gln	
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Ser	Pro	Val	Leu	Ile	Ala	Ala	Thr	Phe	Met	Glu	Gln	Gly	Gly	Leu	Pro	
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Tyr	Ile	Asn	Thr	Ile	Val	Tyr	Pro	Leu	Thr	Ser	Ile	Pro	Leu	Leu	Ala	
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Tyr Cys Thr Leu Pro Ala Ile Cys Leu Leu Thr Gly Lys Phe Ile Val
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Ser Ile Phe Ser Thr Gly Ile Leu Glu Leu Arg Trp Ser Gly Val Thr
915 920 925

Leu Glu Asp Trp Trp Arg Asn Glu Gln Phe Trp Val Ile Gly Gly Thr
930 935 940

Ser Ala His Leu Phe Ala Val Phe Gln Gly Leu Leu Lys Val Leu Ala
945 950 955 960

Gly Ile Asp Thr Asn Phe Thr Val Thr Ser Lys Ala Ser Asp Glu Asp
965 970 975

Gly Asp Phe Ala Glu Leu Tyr Val Phe Lys Trp Thr Ser Leu Leu Ile
980 985 990

Pro Pro Thr Thr Ile Leu Val Val Asn Met Val Gly Ile Val Ala Gly
995 1000 1005

Val Ser Phe Ala Ile Asn Ser Gly Tyr Gln Ser Trp Gly Pro Leu Phe
1010 1015 1020

Gly Arg Leu Phe Phe Ala Ile Trp Val Ile Val His Leu Tyr Pro Phe
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Leu Lys Gly Leu Leu Gly Arg Gln Asn Arg Thr Pro Thr Ile Val Ile
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Val Trp Ser Val Leu Leu Ala Ser Ile Phe Ser Leu Leu Trp Val Arg
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Ile Asp Pro Phe Thr Ser Asp Ser Thr Lys Ala Arg Gly Gln Cys Gly
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Ile Asp Cys
1090

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<211> 1560
<212> DNA
<213> Glycine max

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gactaccag tggataaggt ctctgttat gtctctgatg atggtgctgc tatgttgaca 180
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<210> 28

<211> 431

<212> PRT

<213> Glycine max

<400> 28

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          20                      25          30

Thr Val Leu Ser Ile Leu Ser Val Asp Tyr Pro Val Asp Lys Val Ser
          35                      40          45

Cys Tyr Val Ser Asp Asp Gly Ala Ala Met Leu Thr Phe Glu Ala Leu
          50                      55          60

Ala Glu Thr Ser Glu Phe Ala Arg Lys Trp Val Pro Phe Ser Lys Lys
          65                      70          75          80

Tyr Asn Ile Glu Pro Arg Ala Pro Glu Trp Tyr Phe Ala Gln Lys Ile
          85                      90          95

Asp Tyr Leu Lys Asp Lys Val Gln Pro Ser Phe Val Lys Asp Arg Arg
          100                     105          110

Ala Met Lys Arg Glu Tyr Glu Glu Phe Lys Ile Arg Ile Asn Gly Leu
          115                     120          125

Val Ala Lys Ala Gln Lys Ile Pro Glu Glu Gly Trp Val Met Gln Asp
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Gly Thr Pro Trp Pro Gly Asn Asn Thr Arg Asp His Pro Gly Met Ile
          145                     150          155          160

Gln Val Phe Leu Gly Gln Ser Gly Gly Leu Asp Thr Glu Gly Asn Glu
          165                     170          175

Leu Pro Arg Leu Val Tyr Val Ser Arg Glu Lys Arg Pro Gly Phe Gln
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His His Lys Lys Ala Gly Ala Met Asn Ala Leu Val Arg Val Ser Ala
195 200 205

Val Leu Thr Asn Gly Pro Phe Leu Leu Asn Leu Asp Cys Asp His Tyr
210 215 220

Ile Asn Asn Ser Lys Ala Leu Arg Glu Ala Met Cys Phe Met Met Asp
225 230 235 240

Pro Asn Leu Gly Lys Asn Val Cys Tyr Val Gln Phe Pro Gln Arg Phe
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Asp Gly Ile Asp Arg Asn Asp Arg Tyr Ala Asn Arg Asn Thr Val Phe
260 265 270

Phe Asp Ile Asn Leu Arg Gly Leu Asp Gly Ile Gln Gly Pro Val Tyr
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Val Gly Thr Gly Cys Val Phe Asn Arg Thr Ala Leu Tyr Gly Tyr Glu
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Pro Pro Ile Lys Pro Lys His Lys Lys Pro Gly Phe Leu Ser Ser Leu
305 310 315 320

Cys Gly Gly Asn Arg Lys Lys Arg Ser Lys Ser Ser Lys Lys Gly Ser
325 330 335

Asp Lys Lys Lys Ser Ser Lys Asn Val Asp Pro Thr Val Pro Ile Phe
340 345 350

Ser Leu Glu Asp Ile Glu Glu Gly Val Glu Gly Ala Gly Phe Asp Asp
355 360 365

Glu Lys Ser Leu Leu Met Ser Gln Met Ser Leu Glu Lys Arg Phe Gly
370 375 380

Gln Ser Ala Val Phe Val Ala Ser Thr Leu Met Glu Asn Gly Gly Val
385 390 395 400

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<211> 3626
<212> DNA
<213> Triticum aestivum

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ctccgacgac	catttttgatc	attaacatgg	ttggtgtcgt	tgctggcacc	tcctacgcca	3060
tcaacagtgg	ttaccaatca	tgggggcccgc	tctttgggaa	gctcttcttt	gccttctggg	3120
tgattgttca	cttataccca	ttcctcaagg	gtcttatggg	caggcaaaac	cgcacaccga	3180
cgattgtcat	cgtctgggct	gtcctcctcg	cttctatctt	ctccttgctg	tggttctcgtg	3240
ttgatccatt	cactaccctg	ctcgtctggc	caaataatcca	aacctgtggc	atcaactgct	3300
aggaaaagtgg	gagttttag	agacagaaaa	tataacagtg	atcgagcaac	aaccgcgga	3360
gccagagaat	atttatgttg	gggttggtgaa	ttactacgtt	tgagaaaagt	gtcaaaattg	3420
agaaaacaca	tttgtaata	gatgtaatat	accatctacc	gttttcatga	ggttaagctc	3480
ttcttttttt	ggaacaaagg	aatctcattg	gtaaacctat	aggaattttc	ctatgaggca	3540
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 <212> PRT
 <213> Triticum aestivum

<400> 30

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			20					25					30			
Asp	Val	Phe	Thr	Ala	Cys	Asp	Val	Cys	Arg	Phe	Pro	Val	Cys	Arg	Pro	
		35					40					45				
Cys	Tyr	Glu	His	Glu	Arg	Lys	Glu	Gly	Thr	Gln	Ala	Cys	Leu	Gln	Cys	
	50					55					60					
Lys	Thr	Lys	Tyr	Lys	Arg	His	Arg	Gly	Ser	Pro	Ala	Ile	Arg	Gly	Glu	
65					70					75					80	
Glu	Gly	Asp	Asp	Thr	Asp	Ala	Asp	Asp	Gly	Ser	Asp	Phe	Asn	Tyr	Pro	
				85					90					95		
Ala	Ser	Gly	Thr	Glu	Asp	Gln	Lys	Gln	Lys	Ile	Ala	Asp	Arg	Met	Arg	
			100					105					110			
Ser	Trp	Arg	Met	Asn	Thr	Gly	Gly	Ser	Gly	Asn	Val	Gly	His	Pro	Lys	
		115					120					125				
Tyr	Asp	Ser	Gly	Glu	Ile	Gly	Leu	Ser	Lys	Tyr	Asp	Ser	Gly	Glu	Ile	
	130					135					140					
Pro	Arg	Gly	Tyr	Val	Pro	Ser	Val	Thr	Asn	Ser	Gln	Met	Ser	Gly	Glu	
145					150					155					160	
Ile	Pro	Gly	Ala	Ser	Pro	Asp	His	His	Met	Met	Ser	Pro	Thr	Gly	Asn	
				165					170					175		
Ile	Ser	Arg	Arg	Ala	Pro	Phe	Pro	Tyr	Val	Asn	His	Ser	Pro	Asn	Pro	
			180					185					190			
Ser	Arg	Glu	Phe	Ser	Gly	Ser	Ile	Gly	Asn	Val	Ala	Trp	Lys	Glu	Arg	
		195					200				205					
Val	Asp	Gly	Trp	Lys	Met	Lys	Gln	Asp	Lys	Gly	Ala	Ile	Pro	Met	Thr	
	210					215					220					
Asn	Gly	Thr	Ser	Ile	Ala	Pro	Ser	Glu	Gly	Arg	Ala	Ala	Thr	Asp	Ile	
225					230					235					240	
Asp	Ala	Ser	Thr	Glu	Tyr	Asn	Met	Glu	Asp	Ala	Leu	Leu	Asn	Asp	Glu	
				245					250					255		
Thr	Arg	Gln	Pro	Leu	Ser	Arg	Lys	Val	Pro	Ile	Ala	Ser	Ser	Lys	Ile	
			260					265					270			
Asn	Pro	Tyr	Arg	Met	Val	Ile	Val	Leu	Arg	Leu	Val	Val	Leu	Ser	Ile	
		275					280					285				
Phe	Leu	His	Tyr	Arg	Leu	Thr	Asn	Pro	Val	Arg	Asn	Ala	Tyr	Pro	Leu	
	290					295					300					
Trp	Leu	Leu	Ser	Val	Ile	Cys	Glu	Ile	Trp	Phe	Ala	Leu	Ser	Trp	Ile	
305					310					315					320	

Leu	Asp	Gln	Phe	Pro	Lys	Trp	Phe	Pro	Ile	Asn	Arg	Glu	Thr	Tyr	Leu	
				325					330					335		
Asp	Arg	Leu	Ala	Leu	Arg	Tyr	Asp	Arg	Glu	Gly	Glu	Pro	Ser	Gln	Leu	
			340					345					350			
Ala	Ala	Val	Asp	Ile	Phe	Val	Ser	Thr	Val	Asp	Pro	Leu	Lys	Glu	Pro	
		355					360					365				
Pro	Ile	Val	Thr	Ala	Asn	Thr	Val	Leu	Ser	Ile	Leu	Ala	Val	Asp	Tyr	
	370					375					380					
Pro	Val	Asp	Lys	Val	Ser	Cys	Tyr	Val	Ser	Asp	Asp	Gly	Ala	Ser	Met	
385					390					395					400	
Leu	Thr	Phe	Asp	Ala	Leu	Ala	Glu	Thr	Ser	Glu	Phe	Ala	Arg	Lys	Trp	
				405					410					415		
Val	Pro	Phe	Val	Lys	Lys	Tyr	Asp	Ile	Glu	Pro	Arg	Ala	Pro	Glu	Phe	
			420					425					430			
Tyr	Phe	Cys	Gln	Lys	Ile	Asp	Tyr	Leu	Lys	Asp	Lys	Val	Gln	Pro	Ser	
		435					440					445				
Phe	Val	Lys	Asp	Arg	Arg	Ala	Met	Lys	Arg	Glu	Tyr	Glu	Glu	Phe	Lys	
	450					455					460					
Ile	Arg	Ile	Asn	Ala	Leu	Val	Ser	Lys	Ala	Leu	Lys	Val	Pro	Glu	Glu	
465					470					475					480	
Gly	Trp	Ile	Met	Gln	Asp	Gly	Thr	Pro	Trp	Pro	Gly	Asn	Asn	Thr	Arg	
				485					490					495		
Asp	His	Pro	Gly	Met	Ile	Gln	Val	Phe	Leu	Gly	His	Ser	Gly	Gly	Leu	
			500					505					510			
Asp	Thr	Glu	Gly	Asn	Glu	Leu	Pro	Arg	Leu	Val	Tyr	Val	Ser	Arg	Glu	
		515					520					525				
Lys	Arg	Pro	Gly	Phe	Gln	His	His	Lys	Lys	Ala	Gly	Ala	Met	Asn	Ala	
	530					535					540					
Leu	Val	Arg	Val	Ser	Ala	Val	Leu	Thr	Asn	Gly	Gln	Tyr	Met	Leu	Asn	
545					550					555					560	
Leu	Asp	Cys	Asp	His	Tyr	Ile	Asn	Asn	Ser	Lys	Ala	Val	Arg	Glu	Ala	
				565					570					575		
Met	Cys	Phe	Leu	Met	Asp	Pro	Asn	Leu	Gly	Pro	Gln	Val	Cys	Tyr	Val	
			580					585					590			
Gln	Phe	Pro	Gln	Arg	Phe	Asp	Gly	Ile	Asp	Arg	Asn	Asp	Arg	Tyr	Ala	
		595					600					605				
Asn	Arg	Asn	Thr	Val	Phe	Phe	Asp	Ile	Asn	Leu	Arg	Gly	Leu	Asp	Gly	
	610					615					620					
Ile	Gln	Gly	Pro	Val	Tyr	Val	Gly	Thr	Gly	Cys	Val	Phe	Asn	Arg	Thr	
625					630					635					640	

Ala	Ile	Tyr	Gly	Tyr	Glu	Pro	Pro	Ile	Lys	Ala	Lys	Lys	Pro	Gly	Phe	
				645					650					655		
Leu	Ala	Ser	Leu	Cys	Gly	Gly	Lys	Lys	Lys	Ala	Ser	Lys	Ser	Lys	Lys	
			660					665					670			
Arg	Ser	Ser	Asp	Lys	Lys	Lys	Ser	Asn	Lys	His	Val	Asp	Ser	Ser	Val	
		675					680					685				
Pro	Val	Phe	Asn	Leu	Glu	Asp	Ile	Glu	Glu	Gly	Val	Glu	Gly	Ala	Gly	
	690					695					700					
Phe	Asp	Asp	Glu	Lys	Ser	Val	Leu	Met	Ser	Gln	Met	Ser	Leu	Glu	Lys	
705					710					715					720	
Arg	Phe	Gly	Gln	Ser	Ala	Ala	Phe	Val	Ala	Ser	Thr	Leu	Met	Glu	Tyr	
				725					730					735		
Gly	Gly	Val	Pro	Gln	Ser	Ser	Thr	Pro	Glu	Ser	Leu	Leu	Lys	Glu	Ala	
			740					745					750			
Ile	His	Val	Ile	Ser	Cys	Gly	Tyr	Glu	Asp	Lys	Ser	Glu	Trp	Gly	Thr	
		755					760					765				
Glu	Ile	Gly	Trp	Ile	Tyr	Gly	Ser	Val	Thr	Glu	Asp	Ile	Leu	Thr	Gly	
	770					775					780					
Phe	Lys	Met	His	Ala	Arg	Gly	Trp	Arg	Ser	Val	Tyr	Cys	Met	Pro	Lys	
785					790					795					800	
Arg	Pro	Ala	Phe	Lys	Gly	Ser	Ala	Pro	Ile	Asn	Leu	Ser	Asp	Arg	Leu	
				805					810					815		
Asn	Gln	Val	Leu	Arg	Trp	Ala	Leu	Gly	Ser	Val	Glu	Ile	Leu	Phe	Ser	
			820					825					830			
Arg	His	Cys	Pro	Leu	Trp	Tyr	Gly	Tyr	Gly	Gly	Arg	Leu	Lys	Phe	Leu	
		835					840					845				
Glu	Arg	Phe	Ala	Tyr	Ile	Asn	Thr	Thr	Ile	Tyr	Pro	Leu	Thr	Ser	Leu	
	850					855					860					
Pro	Leu	Leu	Val	Tyr	Cys	Ile	Leu	Pro	Ala	Ile	Cys	Leu	Leu	Thr	Gly	
865					870					875					880	
Lys	Phe	Ile	Met	Pro	Glu	Ile	Ser	Asn	Leu	Ala	Ser	Ile	Trp	Phe	Ile	
				885					890					895		
Ala	Leu	Phe	Leu	Ser	Ile	Phe	Ala	Thr	Gly	Ile	Leu	Glu	Met	Arg	Trp	
			900					905					910			
Ser	Gly	Val	Gly	Ile	Asp	Glu	Trp	Trp	Arg	Asn	Glu	Gln	Phe	Trp	Val	
		915					920					925				
Ile	Gly	Gly	Ile	Ser	Ala	His	Leu	Phe	Ala	Val	Phe	Gln	Gly	Leu	Leu	
	930					935					940					
Lys	Val	Leu	Ala	Gly	Ile	Asp	Thr	Asn	Phe	Thr	Val	Thr	Ser	Lys	Ala	
945					950					955					960	

Asn Asp Glu Glu Gly Asp Phe Ala Glu Leu Tyr Met Phe Lys Trp Thr
 965 970 975
 Thr Leu Leu Ile Pro Pro Thr Thr Ile Leu Ile Ile Asn Met Val Gly
 980 985 990
 Val Val Ala Gly Thr Ser Tyr Ala Ile Asn Ser Gly Tyr Gln Ser Trp
 995 1000 1005
 Gly Pro Leu Phe Gly Lys Leu Phe Phe Ala Phe Trp Val Ile Val His
 1010 1015 1020
 Leu Tyr Pro Phe Leu Lys Gly Leu Met Gly Arg Gln Asn Arg Thr Pro
 1025 1030 1035 1040
 Thr Ile Val Ile Val Trp Ala Val Leu Leu Ala Ser Ile Phe Ser Leu
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 1060 1065 1070
 Ile Gln Thr Cys Gly Ile Asn Cys
 1075 1080
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 <213> Gossypium hirsutum
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 20 25 30
 His Pro Ser Phe Val Lys Glu Arg Arg Ala Met Lys Arg Glu Tyr Glu
 35 40 45
 Glu Phe Lys Val Arg Ile Asn Ala Leu Val Ala Lys Ala Gln Lys Lys
 50 55 60
 Pro Glu Glu Gly Trp Val Met Gln Asp Gly Thr Pro Trp Pro Gly Asn
 65 70 75 80
 Asn Thr Arg Asp His Pro Gly Met Ile Gln Val Tyr Leu Gly Ser Ala
 85 90 95
 Gly Ala Leu Asp Val Asp Gly Lys Glu Leu Pro Arg Leu Val Tyr Val
 100 105 110
 Ser Arg Glu Lys Arg Pro Gly Tyr Gln His His Lys Lys Ala Gly Ala
 115 120 125
 Glu Asn Ala Leu Val Arg Val Ser Ala Val Leu Thr Asn Ala Pro Phe
 130 135 140

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Ile	Leu	Asn	Leu	Asp	Cys	Asp	His	Tyr	Ile	Asn	Asn	Ser	Lys	Ala	Met	145	150	155	160
Arg	Glu	Ala	Met	Cys	Phe	Leu	Met	Asp	Pro	Gln	Phe	Gly	Lys	Lys	Leu	165	170		175
Cys	Tyr	Val	Gln	Phe	Pro	Gln	Arg	Phe	Asp	Gly	Ile	Asp	Arg	His	Asp	180	185		190
Arg	Tyr	Ala	Asn	Arg	Asn	Val	Val	Phe	Phe	Asp	Ile	Asn	Met	Leu	Gly	195	200		205
Leu	Asp	Gly	Leu	Gln	Gly	Pro	Val	Tyr	Val	Gly	Thr	Gly	Cys	Val	Phe	210	215		220
Asn	Arg	Gln	Ala	Leu	Tyr	Gly	Tyr	Asp	Pro	Pro	Val	Ser	Glu	Lys	Arg	225	230		235
Pro	Lys	Met	Thr	Cys	Asp	Cys	Trp	Pro	Ser	Trp	Cys	Cys	Cys	Cys	Cys	245	250		255
Gly	Gly	Ser	Arg	Lys	Lys	Ser	Lys	Lys	Lys	Gly	Glu	Lys	Lys	Gly	Leu	260	265		270
Leu	Gly	Gly	Leu	Leu	Tyr	Gly	Lys	Lys	Lys	Lys	Met	Met	Gly	Lys	Asn	275	280		285
Tyr	Val	Lys	Lys	Gly	Ser	Ala	Pro	Val	Phe	Asp	Leu	Glu	Glu	Ile	Glu	290	295		300
Glu	Gly	Leu	Glu	Gly	Tyr	Glu	Glu	Leu	Glu	Lys	Ser	Thr	Leu	Met	Ser	305	310		315
Gln	Lys	Asn	Phe	Glu	Lys	Arg	Phe	Gly	Gln	Ser	Pro	Val	Phe	Ile	Ala	325	330		335
Ser	Thr	Leu	Met	Glu	Asn	Gly	Gly	Leu	Pro	Glu	Gly	Thr	Asn	Ser	Thr	340	345		350
Ser	Leu	Ile	Lys	Glu	Ala	Ile	His	Val	Ile	Ser	Cys	Gly	Tyr	Glu	Glu	355	360		365
Lys	Thr	Glu	Trp	Gly	Lys	Glu	Ile	Gly	Trp	Ile	Tyr	Gly	Ser	Val	Thr	370	375		380
Glu	Asp	Ile	Leu	Thr	Gly	Phe	Lys	Met	His	Cys	Arg	Gly	Trp	Lys	Ser	385	390		395
Val	Tyr	Cys	Val	Pro	Lys	Arg	Pro	Ala	Phe	Lys	Gly	Ser	Ala	Pro	Ile	405	410		415
Asn	Leu	Ser	Asp	Arg	Leu	His	Gln	Val	Leu	Arg	Trp	Ala	Leu	Gly	Ser	420	425		430
Val	Glu	Ile	Phe	Leu	Ser	Arg	His	Cys	Pro	Leu	Trp	Tyr	Gly	Tyr	Gly	435	440		445
Gly	Lys	Leu	Lys	Trp	Leu	Glu	Arg	Leu	Ala	Tyr	Ile	Asn	Thr	Ile	Val	450	455		460

09900237 " 070601

Tyr Pro Phe Thr Ser Ile Pro Leu Leu Ala Tyr Cys Thr Ile Pro Ala
465 470 475 480

Val Cys Leu Leu Thr Gly Lys Phe Ile Ile Pro Thr Leu Ser Asn Leu
485 490 495

Thr Ser Val Trp Phe Leu Ala Leu Phe Leu Ser Ile Ile Ala Thr Gly
500 505 510

Val Leu Glu Leu Arg Trp Ser Gly Val Ser Ile Gln Asp Trp Trp Arg
515 520 525

Asn Glu Gln Phe Trp Val Ile Gly Gly Val Ser Ala His Leu Phe Ala
530 535 540

Val Phe Gln Gly Leu Leu Lys Val Leu Ala Gly Val Asp Thr Asn Phe
545 550 555 560

Thr Val Thr Ala Lys Ala Ala Asp Asp Thr Glu Phe Gly Glu Leu Tyr
565 570 575

Leu Phe Lys Trp Thr Thr Leu Leu Ile Pro Pro Thr Thr Leu Ile Ile
580 585 590

Leu Asn Met Val Gly Val Val Ala Gly Val Ser Asp Ala Ile Asn Asn
595 600 605

Gly Tyr Gly Ser Trp Gly Pro Leu Phe Gly Lys Leu Phe Phe Ala Phe
610 615 620

Trp Val Ile Leu His Leu Tyr Pro Phe Leu Lys Gly Leu Met Gly Arg
625 630 635 640

Gln Asn Arg Thr Pro Thr Ile Val Val Leu Trp Ser Ile Leu Leu Ala
645 650 655

Ser Ile Phe Ser Leu Val Trp Val Arg Ile Asp Pro Phe Leu Pro Lys
660 665 670

Gln Thr Gly Pro Val Leu Lys Gln Cys Gly Val Glu Cys
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<211> 701
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<213> Gossypium hirsutum

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Ala Met Leu Thr Phe Glu Ala Leu Ser Glu Thr Ser Glu Phe Ala Arg
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Lys Trp Val Pro Phe Cys Lys Lys Tyr Asn Ile Glu Pro Arg Ala Pro
35 40 45

Glu Trp Tyr Phe Ala Gln Lys Ile Asp Tyr Leu Lys Asp Lys Val Gln
50 55 60

Thr	Ser	Phe	Val	Lys	Glu	Arg	Arg	Ala	Met	Lys	Arg	Glu	Tyr	Glu	Glu	65	70	75	80
Phe	Lys	Val	Arg	Val	Asn	Gly	Leu	Val	Ala	Lys	Ala	Gln	Lys	Val	Pro	85	90	95	
Glu	Glu	Gly	Trp	Ile	Met	Gln	Asp	Gly	Thr	Pro	Trp	Pro	Gly	Asn	Asn	100	105	110	
Thr	Arg	Asp	His	Pro	Gly	Met	Ile	Gln	Val	Phe	Leu	Gly	Gln	Ser	Gly	115	120	125	
Gly	Leu	Asp	Ala	Glu	Gly	Asn	Glu	Leu	Pro	Arg	Leu	Val	Tyr	Val	Ser	130	135	140	
Arg	Glu	Lys	Arg	Pro	Gly	Phe	Gln	His	His	Lys	Lys	Ala	Gly	Ala	Met	145	150	155	160
Asn	Ala	Leu	Val	Arg	Val	Ser	Ala	Val	Leu	Thr	Asn	Gly	Ala	Phe	Leu	165	170	175	
Leu	Asn	Leu	Asp	Cys	Asp	His	Tyr	Ile	Asn	Asn	Ser	Lys	Ala	Leu	Arg	180	185	190	
Glu	Ala	Met	Cys	Phe	Leu	Met	Asp	Pro	Asn	Leu	Gly	Lys	Gln	Val	Cys	195	200	205	
Tyr	Val	Gln	Phe	Pro	Gln	Arg	Phe	Asp	Gly	Ile	Asp	Arg	Asn	Asp	Arg	210	215	220	
Tyr	Ala	Asn	Arg	Asn	Thr	Val	Phe	Phe	Asp	Ile	Asn	Leu	Arg	Gly	Leu	225	230	235	240
Asp	Gly	Ile	Gln	Gly	Pro	Val	Tyr	Val	Gly	Thr	Gly	Cys	Val	Phe	Asn	245	250	255	
Arg	Thr	Ala	Leu	Tyr	Gly	Tyr	Glu	Pro	Pro	Leu	Lys	Pro	Lys	His	Arg	260	265	270	
Lys	Thr	Gly	Ile	Leu	Ser	Ser	Leu	Cys	Gly	Gly	Ser	Arg	Lys	Lys	Ser	275	280	285	
Ser	Lys	Ser	Ser	Lys	Lys	Gly	Ser	Asp	Lys	Lys	Lys	Ser	Gly	Lys	His	290	295	300	
Val	Asp	Ser	Thr	Val	Pro	Val	Phe	Asn	Leu	Glu	Asp	Ile	Glu	Glu	Gly	305	310	315	320
Val	Glu	Gly	Ala	Gly	Phe	Asp	Asp	Glu	Lys	Ser	Leu	Leu	Met	Ser	Gln	325	330	335	
Met	Ser	Leu	Glu	Lys	Arg	Phe	Gly	Gln	Ser	Ala	Val	Phe	Val	Ala	Ser	340	345	350	
Thr	Leu	Met	Glu	Asn	Gly	Gly	Val	Pro	Gln	Ser	Ala	Thr	Pro	Glu	Thr	355	360	365	
Leu	Leu	Lys	Glu	Ala	Ile	His	Val	Ile	Ser	Cys	Gly	Tyr	Glu	Asp	Lys	370	375	380	

Thr	Asp	Trp	Gly	Ser	Glu	Ile	Gly	Trp	Ile	Tyr	Gly	Ser	Val	Thr	Glu	385	390	395	400
Asp	Ile	Leu	Thr	Gly	Phe	Lys	Met	His	Ala	Arg	Gly	Trp	Arg	Ser	Ile	405	410	415	
Tyr	Cys	Met	Pro	Lys	Arg	Pro	Ala	Phe	Lys	Gly	Ser	Ala	Pro	Ile	Asn	420	425	430	
Leu	Ser	Asp	Arg	Leu	Asn	Gln	Val	Leu	Arg	Trp	Ala	Leu	Gly	Ser	Val	435	440	445	
Glu	Ile	Leu	Phe	Ser	Arg	His	Cys	Pro	Ile	Trp	Tyr	Gly	Tyr	Ser	Gly	450	455	460	
Arg	Leu	Lys	Trp	Leu	Glu	Arg	Phe	Ala	Tyr	Val	Asn	Thr	Thr	Ile	Tyr	465	470	475	480
Pro	Val	Thr	Ala	Ile	Pro	Leu	Leu	Met	Tyr	Cys	Thr	Leu	Pro	Ala	Val	485	490	495	
Cys	Leu	Leu	Thr	Asn	Lys	Phe	Ile	Ile	Pro	Gln	Ile	Ser	Asn	Leu	Ala	500	505	510	
Ser	Ile	Trp	Phe	Ile	Ser	Leu	Phe	Leu	Ser	Ile	Phe	Ala	Thr	Gly	Ile	515	520	525	
Leu	Lys	Met	Lys	Trp	Asn	Gly	Val	Gly	Ile	Asp	Gln	Trp	Trp	Arg	Asn	530	535	540	
Glu	Gln	Phe	Trp	Val	Ile	Gly	Gly	Val	Ser	Ala	His	Leu	Phe	Ala	Val	545	550	555	560
Phe	Gln	Gly	Leu	Leu	Lys	Val	Leu	Ala	Gly	Ile	Asp	Thr	Asn	Phe	Thr	565	570	575	
Val	Thr	Ser	Lys	Ala	Ser	Asp	Glu	Asp	Gly	Asp	Phe	Ala	Glu	Leu	Tyr	580	585	590	
Met	Phe	Lys	Trp	Thr	Thr	Leu	Leu	Ile	Pro	Pro	Thr	Thr	Leu	Leu	Ile	595	600	605	
Ile	Asn	Leu	Val	Gly	Val	Val	Ala	Gly	Ile	Ser	Tyr	Val	Ile	Asn	Ser	610	615	620	
Gly	Tyr	Gln	Ser	Trp	Gly	Pro	Leu	Phe	Gly	Lys	Leu	Phe	Phe	Ala	Phe	625	630	635	640
Trp	Val	Ile	Ile	His	Leu	Tyr	Pro	Phe	Leu	Lys	Gly	Leu	Met	Gly	Arg	645	650	655	
Gln	Asn	Arg	Thr	Pro	Thr	Ile	Val	Val	Val	Trp	Ser	Ile	Leu	Leu	Ala	660	665	670	
Ser	Ile	Phe	Ser	Leu	Leu	Trp	Val	Arg	Ile	Asp	Pro	Phe	Thr	Thr	Arg	675	680	685	
Val	Thr	Gly	Pro	Asp	Val	Glu	Gln	Cys	Gly	Ile	Asn	Cys				690	695	700	

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 <211> 1065
 <212> PRT
 <213> Arabidopsis thaliana

<400> 33
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 Pro Gln Thr Cys Gln Ile Cys Ser Asp Asn Val Gly Lys Thr Val Asp
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 Gly Asp Arg Phe Val Ala Cys Asp Ile Cys Ser Phe Pro Val Cys Arg
 35 40 45
 Pro Cys Tyr Glu Tyr Glu Arg Lys Asp Gly Asn Gln Ser Cys Pro Gln
 50 55 60
 Cys Lys Thr Arg Tyr Lys Arg Leu Lys Gly Ser Pro Ala Ile Pro Gly
 65 70 75 80
 Asp Lys Asp Glu Asp Gly Leu Ala Asp Glu Gly Thr Val Glu Phe Asn
 85 90 95
 Tyr Pro Gln Lys Glu Lys Ile Ser Glu Arg Met Leu Gly Trp His Leu
 100 105 110
 Thr Arg Gly Lys Gly Glu Glu Met Gly Glu Pro Gln Tyr Asp Lys Glu
 115 120 125
 Val Ser His Asn His Leu Pro Arg Leu Thr Ser Arg Gln Asp Thr Ser
 130 135 140
 Gly Glu Phe Ser Ala Ala Ser Pro Glu Arg Leu Ser Val Ser Ser Thr
 145 150 155 160
 Ile Ala Gly Gly Lys Arg Leu Pro Tyr Ser Ser Asp Val Asn Gln Ser
 165 170 175
 Pro Asn Arg Arg Ile Val Asp Pro Val Gly Leu Gly Asn Val Ala Trp
 180 185 190
 Lys Glu Arg Val Asp Gly Trp Lys Met Lys Gln Glu Lys Asn Thr Gly
 195 200 205
 Pro Val Ser Thr Gln Ala Ala Ser Glu Arg Gly Gly Val Asp Ile Asp
 210 215 220
 Ala Ser Thr Asp Ile Leu Ala Asp Glu Ala Leu Leu Asn Asp Glu Ala
 225 230 235 240
 Arg Gln Pro Leu Ser Arg Lys Val Ser Ile Pro Ser Ser Arg Ile Asn
 245 250 255
 Pro Tyr Arg Met Val Ile Met Leu Arg Leu Val Ile Leu Cys Leu Phe
 260 265 270

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Leu	His	Tyr	Arg	Ile	Thr	Asn	Pro	Val	Pro	Asn	Ala	Phe	Ala	Leu	Trp	275	280	285
Leu	Val	Ser	Val	Ile	Cys	Glu	Ile	Trp	Phe	Ala	Leu	Ser	Trp	Ile	Leu	290	295	300
Asp	Gln	Phe	Pro	Lys	Trp	Phe	Pro	Val	Asn	Arg	Glu	Thr	Tyr	Leu	Asp	305	310	315
Arg	Leu	Ala	Leu	Arg	Tyr	Asp	Arg	Glu	Gly	Glu	Pro	Ser	Gln	Leu	Ala	325	330	335
Ala	Val	Asp	Ile	Phe	Val	Ser	Thr	Val	Asp	Pro	Leu	Lys	Glu	Pro	Pro	340	345	350
Leu	Val	Thr	Ala	Asn	Thr	Val	Leu	Ser	Ile	Leu	Ala	Val	Asp	Tyr	Pro	355	360	365
Val	Asp	Lys	Val	Ser	Cys	Tyr	Val	Phe	Asp	Asp	Gly	Ala	Ala	Met	Leu	370	375	380
Ser	Phe	Glu	Ser	Leu	Ala	Glu	Thr	Ser	Glu	Phe	Ala	Arg	Lys	Trp	Val	385	390	395
Pro	Phe	Cys	Lys	Lys	Tyr	Ser	Ile	Glu	Pro	Arg	Ala	Pro	Glu	Trp	Tyr	405	410	415
Phe	Ala	Ala	Lys	Ile	Asp	Tyr	Leu	Lys	Asp	Lys	Val	Gln	Thr	Ser	Phe	420	425	430
Val	Lys	Asp	Arg	Arg	Ala	Met	Lys	Arg	Glu	Tyr	Glu	Glu	Phe	Lys	Ile	435	440	445
Arg	Ile	Asn	Ala	Leu	Val	Ser	Lys	Ala	Leu	Lys	Cys	Pro	Glu	Glu	Gly	450	455	460
Trp	Val	Met	Gln	Asp	Gly	Thr	Pro	Trp	Pro	Gly	Asn	Asn	Thr	Gly	Asp	465	470	475
His	Pro	Gly	Met	Ile	Gln	Val	Phe	Leu	Gly	Gln	Asn	Gly	Gly	Leu	Asp	485	490	495
Ala	Glu	Gly	Asn	Glu	Leu	Pro	Arg	Leu	Val	Tyr	Val	Ser	Arg	Glu	Lys	500	505	510
Arg	Pro	Gly	Phe	Gln	His	His	Lys	Lys	Ala	Gly	Ala	Met	Asn	Ala	Leu	515	520	525
Val	Arg	Val	Ser	Ala	Val	Leu	Thr	Asn	Gly	Pro	Phe	Ile	Leu	Asn	Leu	530	535	540
Asp	Cys	Asp	His	Tyr	Ile	Asn	Asn	Ser	Lys	Ala	Leu	Arg	Glu	Ala	Met	545	550	555
Cys	Phe	Leu	Met	Asp	Pro	Asn	Leu	Gly	Lys	Gln	Val	Cys	Tyr	Val	Gln	565	570	575
Phe	Pro	Gln	Arg	Phe	Asp	Gly	Ile	Asp	Lys	Asn	Asp	Arg	Tyr	Ala	Asn	580	585	590

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Arg	Asn	Thr	Val	Phe	Phe	Asp	Ile	Asn	Leu	Arg	Gly	Leu	Asp	Gly	Ile	
		595					600					605				
Gln	Gly	Pro	Val	Tyr	Val	Gly	Thr	Gly	Cys	Val	Phe	Asn	Arg	Thr	Ala	
	610					615					620					
Leu	Tyr	Gly	Tyr	Glu	Pro	Pro	Ile	Lys	Val	Lys	His	Lys	Lys	Pro	Ser	
625					630					635					640	
Leu	Leu	Ser	Lys	Leu	Cys	Gly	Gly	Ser	Arg	Lys	Lys	Asn	Ser	Lys	Ala	
				645					650						655	
Lys	Lys	Glu	Ser	Asp	Lys	Lys	Lys	Ser	Gly	Arg	His	Thr	Asp	Ser	Thr	
			660					665					670			
Val	Pro	Val	Phe	Asn	Leu	Asp	Asp	Ile	Glu	Glu	Gly	Val	Glu	Gly	Ala	
		675					680					685				
Gly	Phe	Asp	Asp	Glu	Lys	Ala	Leu	Leu	Met	Ser	Gln	Met	Ser	Leu	Glu	
	690					695					700					
Lys	Arg	Phe	Gly	Gln	Ser	Ala	Val	Phe	Val	Ala	Ser	Thr	Leu	Met	Glu	
705					710					715					720	
Asn	Gly	Gly	Val	Pro	Pro	Ser	Ala	Thr	Pro	Glu	Asn	Leu	Leu	Lys	Glu	
				725					730					735		
Ala	Ile	His	Val	Ile	Ser	Cys	Gly	Tyr	Glu	Asp	Lys	Ser	Asp	Trp	Gly	
			740					745					750			
Met	Glu	Ile	Gly	Trp	Ile	Tyr	Gly	Ser	Val	Thr	Glu	Asp	Ile	Leu	Thr	
		755					760					765				
Gly	Phe	Lys	Met	His	Ala	Arg	Gly	Trp	Arg	Ser	Ile	Tyr	Cys	Met	Pro	
	770					775					780					
Lys	Leu	Pro	Ala	Phe	Lys	Gly	Ser	Ala	Pro	Ile	Asn	Leu	Ser	Asp	Arg	
785					790					795					800	
Leu	Asn	Gln	Val	Leu	Arg	Trp	Ala	Leu	Gly	Ser	Val	Glu	Ile	Leu	Phe	
				805					810					815		
Ser	Arg	His	Cys	Pro	Ile	Trp	Tyr	Gly	Tyr	Asn	Gly	Arg	Leu	Lys	Phe	
			820					825					830			
Leu	Glu	Arg	Phe	Ala	Tyr	Val	Asn	Thr	Thr	Ile	Tyr	Pro	Ile	Thr	Ser	
		835					840					845				
Ile	Pro	Leu	Leu	Met	Tyr	Cys	Thr	Leu	Leu	Ala	Val	Cys	Leu	Phe	Thr	
	850					855					860					
Asn	Gln	Phe	Ile	Ile	Pro	Gln	Ile	Ser	Asn	Ile	Ala	Ser	Ile	Trp	Phe	
865					870					875					880	
Leu	Ser	Leu	Phe	Leu	Ser	Ile	Phe	Ala	Thr	Gly	Ile	Leu	Glu	Met	Arg	
				885					890					895		
Trp	Ser	Gly	Val	Gly	Ile	Asp	Glu	Trp	Trp	Arg	Asn	Glu	Gln	Phe	Trp	
			900					905					910			

Val Ile Gly Gly Val Ser Ala His Leu Phe Ala Val Phe Gln Gly Ile
 915 920 925
 Leu Lys Val Leu Ala Gly Ile Asp Thr Asn Phe Thr Val Thr Ser Lys
 930 935 940
 Ala Ser Asp Glu Asp Gly Asp Phe Ala Glu Leu Tyr Leu Phe Lys Trp
 945 950 955 960
 Thr Thr Leu Leu Ile Pro Pro Thr Thr Leu Leu Ile Val Asn Leu Val
 965 970 975
 Gly Val Val Ala Gly Val Ser Tyr Ala Ile Asn Ser Gly Tyr Gln Ser
 980 985 990
 Trp Gly Pro Leu Phe Gly Lys Leu Phe Phe Ala Phe Trp Val Ile Val
 995 1000 1005
 His Leu Tyr Pro Phe Leu Lys Gly Leu Met Gly Arg Gln Asn Arg Thr
 1010 1015 1020
 Pro Thr Ile Val Val Val Trp Ser Val Leu Leu Ala Ser Ile Phe Ser
 1025 1030 1035 1040
 Leu Leu Trp Val Arg Ile Asp Pro Phe Thr Ser Arg Val Thr Gly Pro
 1045 1050 1055
 Asp Ile Leu Glu Cys Gly Ile Asn Cys
 1060 1065